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December 22, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Notice of Ex Parte Contact
PR Docket No. 93-61

Dear Mr. Caton:

The attached statement of MobileVision, L.P. is respectfully submitted in response to the Commission's request for comment on proposals under consideration in the referenced docket.

Two copies of this notice are being submitted in accordance with Section 1.1206(a)(1).

The attached brief comments respond to recent Pinpoint filings creating further delay in this rulemaking proceeding in order to allow testing of their system. These filings offer no new technical findings. As indicated in the attached, the record over the past two years is replete with technical data and studies on the operational parameters of the various wideband multilateration LMS services and the likelihood of interference between such systems and the operation of narrowband systems and Part 15 devices. The clear consensus at the meetings with Part 15 representatives and LMS providers was that testing was only relevant and necessary with regard to Pinpoint's wideband forward links. It is not appropriate, or fair to the other LMS system providers who have been awaiting Commission action on final rules, to delay decisions any further on the core issues -- band plan, auctioning, transition rules, interconnected services -- on the basis that the system of one potential LMS provider continues to be challenged by the Part 15 community.

If, however, the Commission is considering allowing Pinpoint to use wideband forward links and, in that regard, desires further testing, rather than penalize the entire LMS industry by further delay, the Commission should issue final rules that require testing prior to either deployment of wideband

systems in the 910-920 MHz band or deployment of LMS systems with wideband forward links anywhere in the wideband LMS bands to insure that in either case such deployment would not create impermissible interference. While this testing proceeds, perhaps over months, the other mature LMS systems can proceed to deploy and provide the public with these valuable services.

Please associate this material with the record in this proceeding.

Sincerely,

REED SMITH SHAW & McCLAY

John J. McDonnell

Attachment
JJM/agw
cc: Attached Service List

Comments on Pinpoints Ex-Parte Submissions,
filed December 8 - 12, 1994.

Introduction

A series of points was submitted, by Pinpoint, to the Commission between December 8th and 12th, 1994. In these submissions Pinpoint has again made misleading claims, all of which have been previously fully discussed and discounted by the LMS providers who have developed working and deployable systems, as well other independent experts during these proceedings.

The purpose of these comments is to briefly bring to the Commission's attention the facts that have been established during these lengthy proceedings and which have, again, been totally ignored by Pinpoint in their latest submissions.

Time Sharing

Time sharing has been discussed at length and is not feasible. For example the following comments should be particularly noted:

> *"Time-division sharing techniques, in addition to having significant efficiency burdens, create substantial enforcement burdens."* Professor Raymond Pickholtz, June 28, 1993[1].

> *"....TDMA operation shared by many separate systems would be unworkable. The infrastructure required for coordinating individual systems would be unworkable, and inordinate amount of spectrum capacity would be wasted...."* Mobile and Portable Radio Research Group, Virginia Tech, January 14, 1994[2].

Lengthy technical and practical arguments have been put forward by Teletrac, Southwestern Bell, and MobileVision which all agree that wdeband location systems cannot share the same frequency band using time division. The result, if Pinpoint's band proposal was adopted, would be that these systems could not be deployed.

Band Plan and Auctions

All those companies that have mature, developed systems, namely Teletrac, MobileVision and SBMS, have clearly stated that exclusive frequency allocations are essential. The allocation of any shared band is totally unacceptable, therefore the future auctioning of the exclusive LMS sub-bands is practical and should be considered providing that the grandfathering and interconnect provisions put forth by Teletrac, MobileVision and Uniplex, in the Consensus paper, dated December 13, 1994, are followed.

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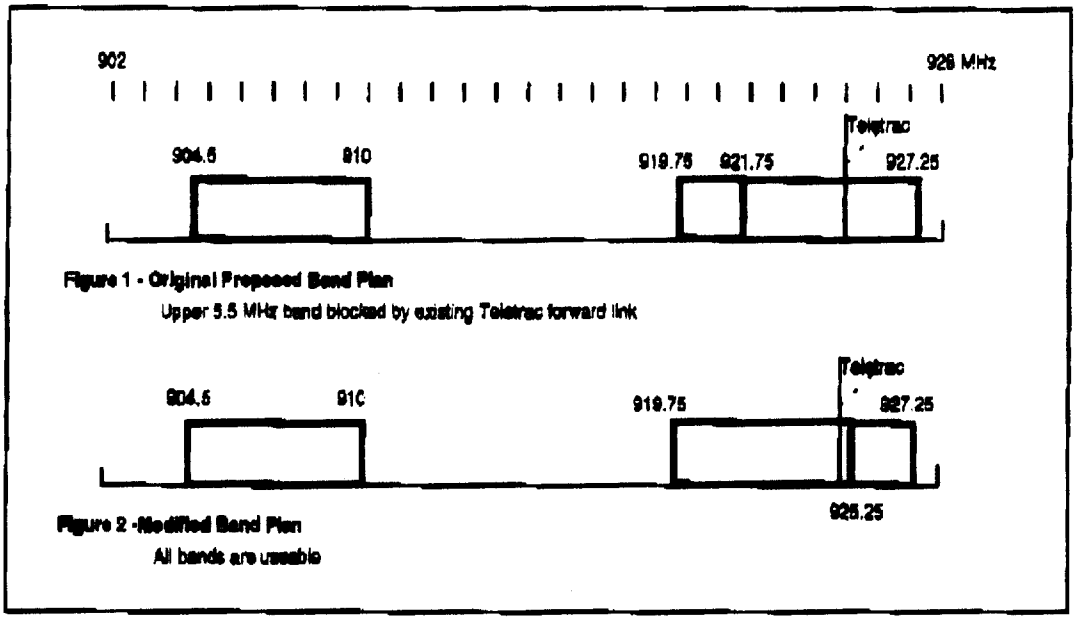
[1] Comments by Teletrac, June 29, 1993, Annex 1, "Conclusions".

[2] Ex-Parte submission by SBMS, February 2, 1994.

If Pinpoint's proposed shared band allocation were to be adopted, then no other LMS provider, with developed systems and ready to deploy, could operate and hence bid on that band. The Commission is urged to proceed with their proposed band plan of two 5.5 MHz and one 2 MHz sub bands which meets the needs of any LMS system that was basically designed within the original constraints of the Interim Rules. Originally this band plan put the allocations as shown in figure 1, but because of the existing Teletrac forward link, the upper 5.5 MHz band would be completely blocked. Hence, it was suggested and urged that the upper bands were swapped as shown in figure 2. The band plan, as per figure 2, results in all bands being useable and it is highly recommended that the Commission adopts it.



MobileVision and Teletrac have agreed to re-engineer and re-design their systems to comply with the band plan as above, a process which incurs a significant amount of time and, in the case of MobileVision, millions of dolloars of investments.

If Pinpoint,or others, are convinced that they can share then they can jointly bid on the LMS sub-band frequencies. If Teletrac and MobileVision are re-designing their systems to meet these allocations then surely Pinpoint can. If they had designed their system within the original constraints of the Interim Rules, then they would be a similar position to MobileVision and should be able to adapt.

If Pinpoint or any other company are convinced that they can share jointly with Part 15 devices, then MobileVision would have no objection to them operating in the middle 10 MHz as they have proposed. Their suggestion of a "Busy Channel Indicator", however, at first sight appears to have some practical problems that the Pinpoint system occupies the band in very short bursts and it is the short duration that has already been shown to be the major problem for most Part 15 devices. Obviously much further discussion and testing would be needed in order to allow the Pinpoint system to share with

Part 15. Again this should not be used as an excuse to delay this ruling. If subsequent testing and analysis showed that the systems could co-exist with the Part 15 devices, then they might be allowed at a later stage, and the ruling could reflect this.

Pinpoint System Claims

Pinpoint has regularly made claims that their system has "revolutionary technology" and claims of vastly increased capacity over all the other systems. MobileVision[3] and others, especially Dr. J Padgett, Chairman TIA Consumer Radio Section, have produced full analysis of the Pinpoint system which shows that the capacity claims are simply based on the use of a very wide bandwidth (four times that of the other systems) and a dramatic sacrifice in jamming margin (the ability to reject interference). It has been pointed out that in order to work in any practical environment the signal strengths need to be very high and as a result the sites must be close together. For example, in the Washington DC tests the Pinpoint base stations lay in a roughly circular pattern only 3 miles across! Despite all the claims that have been made by Pinpoint, indisputable analysis has shown it is the most impractical of systems and, in addition, the system most at risk from interference (e.g. Part 15 devices).

From their publicity literature, it appears that Pinpoint see their system as one offering high data throughput. It has been clearly shown in technical papers by both Dr. J. Padgett[4], Chairman TIA Consumer Radio Section and by MobileVision[5] that the use of wide band spread spectrum for data, in an LMS system, is less efficient than the use of narrow band channels. Secondly, it is doubtful if the low transmit duty factors that Pinpoint claim correspond to the case when the data traffic is fully loaded.

Narrow Band Forward Links versus Wide Band Forward Links

Technical papers by both Dr. J. Padgett, Chairman TIA Consumer Radio Section and by MobileVision have conclusively shown that the use of wide band spread spectrum for data, in an LMS system is less efficient than the use of narrow band channels. Pinpoint should not claim otherwise. Their use of a wideband data channels cannot be substantiated by any arguments on efficiency. In fact it is surprising that Pinpoint have chosen to use and persist in a wideband forward link in the light of indisputable evidence that it is better to use narrow band channels for data capacity.

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[3] "The Pinpoint Array system - a critical analysis"", Annex 1, "Reply Comments of MobileVision, July 29, 1994.

[4] "Wide Area Pulse Ranging AVM/LMS: Messaging/Location system design Tradeoffs and Part 15 Interference". August 8, 1994, submitted to FCC August 12, 1994 by Henry M Rivera on behalf of Part 15 manufacturers.

[5] "Technical Note: Basic Relationships concerning Location using Direct Sequence Spread Spectrum." Annex 3 "Further Reply Comments of MobileVision", March 29, 1994.

Testing with Part 15

Testing is not necessary for any of the LMS systems with the exception of Pinpoint. . The interference from the other LMS systems was shown to be negligible and, judging by the meetings between LMS providers and Part 15, of little concern. There is no doubt that the potential interference from Pinpoint is greater than any of the other LMS systems, and hence, the testing was only recommended for this case.

Pinpoint have proposed that they could operate outside the LMS sub-band allocations on a shared basis with Part 15. MobileVision has submitted three major papers to the Commission on the interference between Part 15 devices and LMS systems. The results have been presented to the major Part 15 representatives and the only expressed concern, by Part 15, has been the Pinpoint wideband forward link. The true effects of the interference to Part 15 devices by the Pinpoint forward link is totally dependent upon the implemented avoidance techniques employed by the Part 15 devices. This was the reason why testing was recommended in order to assess the actual impact of the interference.

Testing is only suggested because of the Pinpoint system and only because of the concern of use of a high power (500W) wide band forward link. It should not, and must not be used to delay the ruling. The use of wide band forward links could be allowed if subsequent testing, which could take months, showed that the interference was acceptable.

Conclusions

The latest submissions by Pinpoint are simply a repeat of their original points made at the beginning of the proceedings. In fact, much of the proceedings has been taken up by extensive analysis showing that the Pinpoint claims of superior technology and sharing ideas had no basis.

The Commission is urged to adopt the band plan as proposed and shown in figure 2, so that the LMS industry can at last get going. It is a good plan that has significant compromise and yet is still acceptable to those companies that rightly developed systems within the constraints of the Interim Rules. This proceeding has dragged on long enough and it is not helped by companies re-iterating misleading points that have been extensively analyzed and shown to be wrong.

If the Commission considers allowing Pinpoint's wide band forward link, then it could issue rules providing for such wide band forward links to be permitted only after testing has demonstrated that the interference caused is within acceptable limits. Such testing for the Pinpoint system can take place after the rule is issued thus permitting commercially viable systems to be built now and to begin to service the public.

CERTIFICATE OF SERVICE

I, América G. Wear, hereby certify that copies of the foregoing **Ex Parte** filing were forwarded this 22nd day of December, 1994 by U.S. first-class mail to the following individuals:

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